**Instructor:** Christopher Quarles

**Instructor’s Office:** Rainier 344

**Email:** [cquarles@everettcc.edu](mailto:cquarles@everettcc.edu)

**Phone:** 425-388-9977 (I prefer email, but phone contact is ok)

**Office Hours:** 12:30-1:30 M-Th or **by appointment** (I’ll also be around for most of the day on Fridays)

**Class Time/Location:** M-Th 8:50-9:50 in Rainier 300

**Final Exam:**  8-9:50 on Friday, June 10th in Rainier 300

**Textbook:** **Intermediate Algebra: Connecting Concepts Through Applications**, 1st ed. by Clark/Anfinson. You should buy the version of the book which is bundled with WebAssign at the bookstore.

**Calculators/Technology:** You will need a scientific calculator – something with a button that looks like [ex] should be sufficient. We will also be using Excel & Word (or, if you feel comfortable with them, alternate spreadsheet & word processing programs) a number of times throughout the quarter. The school has computer labs which students can use for free.

**Supplies Required:** Bring paper, graph paper, and a pencil to class every day. Expect to do math in class every day.

**WebAssign:** You will need to have access to an online learning system (similar to Angel) called WebAssign. The new textbook in the bookstore is bundled with a code which will get you into WebAssign. If you bought the book separately, you can buy an access code either in the bookstore or at www.webassign.net. WebAssign has an online version of the textbook.

**Class Structure:** This class will probably not be like the math classes you’ve taken. Do not expect to come to class and watch someone lecture on how to do mathematical procedures. You will get practice doing those mathematical procedures in your homework, but we won’t cover all of them in class. If you are having trouble with a particular type of problem, look it up in the book, ask a friend, or someone at the tutoring center. If you still can’t get it, I expect you to bring it to class because there are probably a number of other people with the same question. Typically we will start with a real problem or situation. We will explore the problem, and then ask what tools we need. It will be incredibly important for you to ask a question or bring up ideas that you have.

**Grades:** Grading will be based on a weighted average as listed below. A grade of V will be given to those who have not turned in work after the third week of class. A grade of N (audit) will not be given to anyone who has not made arrangements before the last day to drop with a W.

**NOTE:** I expect quiz & exam grades to be lower than you might expect in your previous math classes. If you want a good grade in the class, you need to get 100% on your homework assignments.

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| Material | Goal | Percentage |
| Homework/Worksheets | Low-stakes, build your skills | 30% |
| Quizzes | Show your skills | 30% |
| Big Projects | Put concepts together | 30% |
| Final Exam | Show your skills all at once | 10% |

**Homework:** Homework will be split into two sections, Online Homework & Textbook Homework. Online Homework will be graded, and will be posted on WebAssign. Each section of Online Homework may be due at a different time, but I will always give you at least 4 days to do a section. This does mean, however, that you need to set aside time at least every other day to do your homework.

Since WebAssign doesn’t always have all the problems we need to practice, we have Textbook Homework. Textbook Homework will not be graded. It will be posted in the “Communication” section on WebAssign. You should do it, as those skills are fair game for quizzes.

**Worksheets/Small projects:** These will be low-pressure assignments designed to (a) give you practice working with math ideas, often with other people and (b) supplement the book in areas. These will often just be graded on completion. However, if we do an in-class group worksheet you need to start the assignment at the same time as your group. So if you are more than 5 minutes late on one of these days, you may not complete the assignment for credit. Since I won’t announce the days we’re doing worksheets, you need to be in class and on-time.

**Quizzes:** On every other Thursday (4/7, 4/21, 5/5, 5/19, 6/2), we will have 30 minute in-class quizzes. These will focus primarily on straight-forward algebraic skills.

**Big Projects:** To show your complex reasoning skills and your ability to put a bunch of complex ideas together, we will have a few large projects throughout the quarter. They will focus on understanding a real world scenario using math. This is your chance to put together (and show off) a shiny finished product.

**Final Exam:** We’ll have a cumulative final. **YOU NEED TO BE HERE FOR THE FINAL.** Vacation is not an acceptable reason to miss the final exam – I don’t care who made the reservations.

**Drops, Late Work, Makeups:** There will be no make-ups. Your lowest quiz will be dropped. Also your lowest 3 homework assignments or worksheet will be dropped. **The drops are not to pad your grade.** They are there for when bad things happen to you (broken-down car, illness, etc.) Any take-home, not in-class work will be accepted for half-credit one day late. After that, it will not be accepted. Under special, long-term conditions (such as a well-documented illness), I may make special arrangements at my discretion. I will always ask you to use your drop first.

**Topics Covered:**

The general topic areas covered are listed below. The sections in the book are also listed, as we will be doing homework from these sections as part of each topic area. We will not necessarily discuss all of the material in these sections in class.

* Linear Equations (1.5 weeks)
  + Section 1.1 – Solving Linear Equations
  + Section 1.2 – Using Data to Create Scatterplots
  + Section 1.3 – Fundamentals of Graphing & Slope
  + Section 1.4 – Intercepts & Graphing
  + Section 1.5 – Finding Equations of Lines
* Regression, Functions & Combining Functions (1.5 weeks)
  + Section 1.6 – Finding Linear Models
  + Recognizing Types of Non-Linear Models
  + Section 1.7 – Functions & Function Notation
  + Section 3.1 – Rules for Exponents
  + Section 3.2 – Combining Functions
* More Linear Equations (Solving systems) (0.5 weeks)
  + Section 2.1 – Systems of Linear Equations
  + Section 2.2 – Solving Systems of Equations Using the Substitution Method
  + Section 2.3 – Solving Systems of Equations Using the Elimination Method
* Exponential Functions (2 weeks)
  + Section 5.1 – Exponential Function: Patterns of Growth & Decay
  + Section 5.2 – Solving Equations Using Exponent Rules
  + Section 5.3 – Graphing Exponential Functions
  + Section 5.4 – Finding Exponential Models
  + Section 5.5 – Exponential Growth & Decay Rates and Compounding Interest
* Logarithms (1 week)
  + Section 6.1 – Functions & Their Inverses
  + Section 6.2 – Logarithmic Functions
  + Section 6.4 – Properties of Logarithms
  + Section 6.5 – Solving Exponential Equations
  + Logarithmic Scales
* Quadratic Functions (1.5 weeks)
  + Section 4.1 – Quadratic Functions & Parabolas
  + Section 4.2 – Graphing Quadratics in Vertex Form
  + Section 4.3 – Finding Quadratic Models
  + Section 4.4 – Solving Quadratic Equations by the Square Root Property (No completing the square)
  + Section 4.5 – Solving Equations by Factoring
  + Section 4.6 – Solving Quadratic Equations by Using the Quadratic Formula
  + Section 4.7 - Graphing Quadratics from Standard Form (No quadratic inequalities)
* Radical/Power Functions (1 week)
  + Section 8.1 – Radical Functions
  + Power Functions
  + Section 8.2 –Simplifying Radicals (No adding/subtracting)
  + Section 8.3 – Multiplying & Dividing Radicals
  + Section 8.4 – Solving Radical Equations

**Official Title, Description, and Learning Objectives:**

Math 098 – Intermediate Algebra in Context  
An intermediate algebra course in the context of applications. Linear, quadratic, exponential, radical and power functions, along with logarithms, rational exponents, and systems of equations. Real data, mathematical models, and decision-making. Satisfies the prerequisites for MATH 107, 138, or 146. Not intended for math, science, or engineering majors.  
**Prereq:** Math 082, 088, or 090 with a grade of C (2.0) or higher OR placement into MATH 098 via an assessment score OR permission of a math instructor.

Official Learning Objectives:

1. Use real data and algebra to make and justify decisions
2. Explain in words the meaning of the variables and functions that arise in a given real world context
3. Create and analyze appropriate mathematical models in realistic contexts
4. Graph lines, parabolas, exponential, and power functions using algebraic, numerical, and technological techniques
5. Solve equations involving linear, quadratic, exponential, and power functions
6. Interpret & explain in words general properties of graphs, including statistical graphs and graphs of functions
7. Find & interpret the equation of a line or curve that fits given data well
8. Solve & interpret solutions of systems of equations in given real world contexts
9. Use logarithmic properties & scales
10. Convert between rational exponents & radicals

**Cheating:** Don’t cheat. I will catch you. It’s surprisingly a lot easier to catch cheating than you might think. Cheating includes copying other people’s quizzes or take-home assignments. On worksheets, make sure you understand what you’re writing down before you write it down. The first time I catch you cheating, I will give you a zero on that assignment. Repeated cheating will result in more stringent penalties.

**Disabilities:** If you have or think you have a disability which may affect your ability to do well in this class, you should talk to me soon. You should also go see the Center for Disability Services in Parks 267 across from the bookstore. They have to give me the green light for any special accommodations.

**Inclement Weather:** See the school’s website for information about when the school is closed. If I have to cancel class because I can’t make it to campus (for whatever reason), I will post that information and send out an email through CourseCompass. Please make sure the email address you have on CourseCompass is correct and that you check that email regularly.

**A Note on Angel:** We will not be using Angel, EvCC’s course management software. If you want to contact me, send me an email. I don’t typically check my Angel messages.

Disclaimer: This syllabus is subject to change. I will inform you of any changes in class or on WebAssign.